



# The Sabal

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Plant species page #s in the Sabal refer to:  
“Plants of Deep South Texas” (PDST).

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NPP meeting topic/speaker:

**“Conservation Easements”** —by *John & Audrey Martin*

**Tues., January 24th, at 7:30pm**

The Martins will explain in simple terms what a Conservation Easement is, how they work to preserve land, and who should be interested in them. Learn the pros and cons, what additional tax and estate benefits are available to the landowner and how the process works.

John and Audrey were among the founders of the Valley Land Fund almost 30 years ago. The Martins have personally donated a conservation easement on 40 acres where they live and also created a "conservation subdivision" where the "common area" under conservation easement represents 85% of the land. This is a great opportunity for landowners and land stewards to learn and ask questions of folks actually involved.

John Martin spearheaded the Valley Land Fund Wildlife Photo Contests, and published eight coffee table books of outstanding wild-life photography featuring deep South Texas plants, animals and landscapes.

The meeting is at **Valley Nature Center**, 301 S Border, (in Gibson Park), Weslaco. 956-969-2475.



*Pedionelum rhombifolium*, PDST 267.

**The Sabal** is the newsletter of the Native Plant Project.

*It conveys information on native plants, habitats and environment of the Lower Rio Grande Valley, Texas.*

Previous **Sabal** issues are posted on our website [[www.NativePlantProject.org](http://www.NativePlantProject.org)].

Electronic versions of our **Handbooks** on recommended natives for landscaping are also posted there.

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## Legumes in the Literature —By Christina Mild

As I begin this issue, 11 volumes of relevant botanical literature lie open, adorned with sticky notes, on various couches, tables and chairs. Some of these tomes weigh several pounds. One is in tiny print on an awkward page size, out-of-print, and invaluable to many who would study south Texas native plants more closely. A larger home library space would be marvelous.

Because so many literary sources are included here, a bibliography appears at the end of the article. Several of our editors have suggested such a notion repeatedly in the past. Bibliographies are a pain to create and awkward to refer to, but there you are, sometimes there's no feasible alternative.

Legumes are some of the most important species around the world for their capacity to “fix” nitrogen. This attribute makes it possible for them to live in nitrogen-poor soils and to provide high levels of protein in various plant parts.

R. B. Taylor provides detailed information on six common woody leguminous species as useful to wildlife, with leaves averaging about 20% in crude protein. Taylor lists crude protein levels in spring leaves of Honey Mesquite (*Prosopis glandulosa*) as 26-32%. This doesn't mean that we should rush out to create salads from the backyard mesquite tree. What is digestible for a ruminant animal (cow, horse, deer, goat, sheep) isn't necessarily something we can digest. It does provide a clue about why many animals, wild and domesticated, seek out the leaves of legumes for browsing.

You'll find a few comments in this issue regarding edibility for humans, a rather dangerous topic, to be sure. Ken King recalls an incident where he was called to the local hospital for plant identification purposes. A young lady, having read that *Aloe vera* (not native locally) was beneficial in treating acne, spread plant matter over her face, resulting in irritation to the point of third degree burns. The plant she used wasn't *Aloe vera*, but a different succulent plant with highly-irritating sap. Ken has first-hand knowledge of many mistakes in plant identification.

Cheatham and Johnston warn us further. “When both edible and toxic species share a common name, the resulting ambiguity can prove deadly; cases of mistaken identity have produced many needless deaths.”

Please use caution before eating any part of a wild plant.

So why include anything about edibility for humans? Many people develop higher regard for any plant when they learn that humans can eat it. I'm not above exploiting that angle when it comes to promoting protection, propagation and cultivation of native species.

Delena Tull further expands upon the importance of **Fabaceae**, the Legume family (formerly **Leguminosae**).

“The legume or bean family is one of the largest families of plants in the world. More than 300 species of legume-bearing trees, shrubs, vines and wildflowers call Texas home, with another 40 or so European and Asian immigrants now widespread in the state. Next to the grasses, which produce all our grains and cereals, the bean family is the second most economically important group of plants in the world.”

“All of the beans and peas found at the dinner table come from this family ... These edible legumes have been in cultivation for centuries. A number of wild legumes also provide excellent sources of food.”

Tull recommends an initial identification of a legume by seeking out the “fruit.” Legumes typically produce fruits consisting of seeds (one or more) inside a pod. We enjoy eating the pods of green beans and snow peas. We don't eat the pods of soy beans or peanuts, just the seeds.

Of course, plants from other families also produce seeds inside a pod, so additional recognition factors are to be considered.

Tull elaborates on the dangers of eating the seeds of legumes found in the wild.

“Before taking a bite of the next wild bean you see, however, you need to know that the legume family also contains a number of highly toxic beans. *Sophora secundiflora* (mescal bean, or Texas mountain laurel) has deadly poisonous beans and foliage. ... Native Americans used certain leguminous plants as fish poisons and as powerful drugs for medicinal and religious purposes. Never experiment with an unknown wild bean. Its resemblance to something you had for dinner last night does not qualify it for tonight's dinner table.”



Texas Mountain Laurel, *Sophora secundiflora*, PDST 270. Spring blooming.

Tull gives a good description of a leguminous fruit: “The fruit of a legume will be some kind of bean pod, which may appear long and flat, short and rounded, or twisted like a corkscrew. It may contain one or many seeds of varying sizes and colors, ranging from the tiny, flat, brown, and edible seeds of the mesquite to the large, plump, red, and deadly poisonous seeds of the mescal bean. A few other plant families produce fruits similar to bean pods, so you will need some extra clues to identify the family properly.”

Tull’s description of leguminous leaves is also to the point. “The leaves of most Texas legumes conform to one of several basic patterns. Almost always compound, they may be either pinnately compound or palmately compound. Pinnately compound leaves may be once or twice compound. The leaflets usually have entire margins and an elliptical shape.”

**Fabaceae** is divided into three smaller groups (subfamilies) according to the structure of their flowers. King & Richardson explain this (PDST p 230), and the legumes are presented in their book in three groupings:  
*Caesalpinoideae*, *Mimosoideae* and *Papilionoideae*.

Rather than reading descriptions of these flower types, consider a close examination of the photos in Richardson and King’s book.

*Caesalpinia caudata* (PDST 231), Tailed Rushpea. Photo right, much enlarged. *Caesalpinoideae* bloom type. This short shrub is about 20” tall and grows primarily in sandy soils from Starr to Webb County in Texas. Reddish glands appear as spots, especially on the flower buds and seedpods.



Richardson and King explain that “this species has limited distribution in Texas, in sandy soils from Starr County to Webb County.

The range map on left from B. L. Turner’s atlas provides a visual idea of where this small legume occurs in Texas. Abundance of dots on the map give an idea of the plant’s abundance per county.



We’re fortunate to have years and years of fieldwork by Richardson and King, providing valuable data for the occurrence and abundance of our local native plant species. They’ve found many species not previously reported in deep south Texas.

*Caesalpinia mexicana*, (PDST 232) Mexican Caesalpinia. Photos right. *Caesalpinoideae* bloom type.

Ripe seedpods pop open with force, distributing seeds far and wide. This beautiful tree blooms frequently after rain or watering. It has been planted in most of the nature centers and towns throughout deep south Texas.

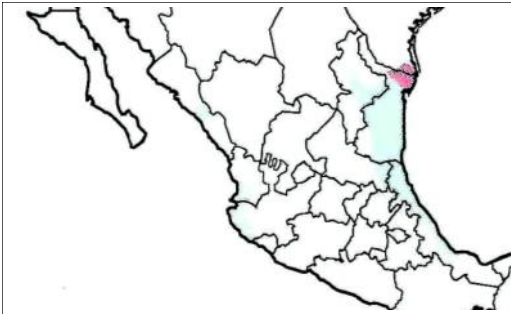
A cropped excerpt from Turner’s atlas shows the very few counties in Texas where Mexican Caesalpinia occurs.



Correll & Johnston report this pretty tree as occurring in Mexico from Tamaulipas to Sinaloa and south to Guerrero. The information gained from consulting “old” literature is often enlightening.



Newer publications are also of interest, even if a trip to the library is required. Cheatham and his co-authors continue work on an encyclopedic compilation of “useful native plants.” *C. mexicana* is continued on p 4.



Range maps included for each species in Cheatham's work are color-coded for plant frequency.

Immediate left is the cropped range map for *Caesalpinia mexicana*. Pink indicates occurrence as rare in south Texas and northern Tamaulipas, MX. Light blue indicates only moderate frequency further south and west in Mexico.

Range maps in this plant encyclopedia extend to include all of North America, the Caribbean Islands, Central and South America for plants with a more widespread range.

We consider many plants to be common because we see them so often and in so many places. Range maps provide a better idea of just how special or how ubiquitous a given species is.

Blackbrush, *Acacia rigidula* (PDST 241). Photo right.

*Mimosoideae* bloom type. These fuzzy caterpillar-like blooms should appear soon, if rain occurs.

A cropped section of the range map from Cheatham et. al. shows that Blackbrush is uncommon in our area.



Dark blue shading further west and south of us in Texas and in Mexico indicate areas where Blackbrush commonly occurs.

Cactus wrens and Scissor-tailed flycatchers nest in Blackbrush according to Taylor. It's an excellent nectar source for honey and is used by a vast number of animals in many ways. Blackbrush seedpods are thin, narrow and split open easily. They are consumed by many animals, including chachalaca and bobwhite.



Texas Ebony, *Chloroleucon ebano* (formerly *Pithecellobium ebano*). (PDST 242) Photo lower right.

*Mimosoideae* bloom type.

Blooms and leaves of Texas Ebony and Blackbrush are very similar.

Seedpods of Ebony are thick, wide and large.

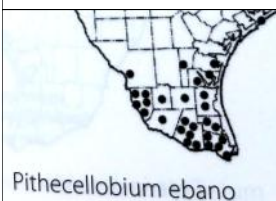
Ebony is a common tree locally; many take it for granted.

Turner's atlas illustrates how uncommon Texas Ebony is, even in Texas.

Many plants which have a distinctly southern range are susceptible to cold damage, especially as young transplants or seedlings. Mike Heep confirms that a long, hard freeze will knock back established ebony and will likely kill young transplants and seedlings.

Plants which occur only in this part of the state have not historically received as much attention in botanical literature. Although Ebony is one of the most useful south Texas plants for humans, it receives no mention in Delena Tull's work on edible and useful plants. This is likely because it is not widespread throughout the state. (Mesquite, common through much of Texas, receives almost 7 pages of attention from Tull, including recipes.)

Richardson & King provide good details on just how useful Ebony can be. People my age speak of eating the roasted beans as children.



**Legumes native to Mexico.** In the case of cultivated plants with the nearest reported populations in Mexico, one often needs to probe difficult-to-access publications for reliable information.

The example I give here is for a species I have no intention to promote, but sought information about.

This example, Guamuchil, *Pithecollobium dulce*, native to Mexico, has been planted in many nature centers throughout the valley to lure Pixie butterflies. It is a preferred host plant for the Pixie, though they also use Texas Ebony, a relative. Native-or-not, many butterfly lovers are determined to have Guamuchil.

The published information I can find on this species is in a very heavy and awkward book compiled by P. C. Standley for the Smithsonian Institution from 1920 to 1926 and reprinted in 1982. (It has 1700+ pages.)

**4. *Pithecollobium dulce* (Roxb.) Benth. Lond. Journ. Bot. 3: 199. 1844.  
*Mimosa dulcis* Roxb. Pl. Coromand. 1: 67. pl. 99. 1795.  
*Acacia obliquifolia* Mart. & Gal. Bull. Acad. Brux. 10<sup>o</sup>: 317. 1843.  
Baja California to Chihuahua, Tamaulipas, and Chiapas; often cultivated.  
Central America and Colombia; naturalized in the East Indies and elsewhere  
in the tropics of the Old World; type from Coromandel.  
Tree, 4.5 to 20 meters high or larger, very spiny; trunk often 60 to 80 cm. in**

Here's a short (and much-enlarged) excerpt from Standley's lengthy synopsis on Guamuchil:

I use this to illustrate just how blessed we are to have many compilations of information on plants native to deep south Texas. When I need information on plants from south of the border, I often find the search to be very difficult. Standley's book is dated and includes mostly trees and shrubs.

Ken King assures me that there are many botanists working and publishing in Mexico. However, Mexico has few compilations such as those we can readily afford and tend to take for granted. Most published reports focus on a single species or genus and are scattered in various scientific journals about which few of us are aware. Localized botanical surveys (names of plants which grow in a specific area) are available to some degree.

One can sometimes find information on the worldwide web, of course, but that information has not always had the benefit of "peer review." This need for information on Mexican species also occurs when plants extend their range through natural means, their seeds being carried on animals, wind or water. With global warming upon us, northward range extensions will likely escalate.

**Legumes: Are We Losing Them?** Plant and animal species are being lost at an alarming rate. Some of my favorite legumes are small things, easily overgrown and crowded out by the exotic grasses which populate most of our roadsides and sunny spaces.

One of these is a good example of the *Papilionoideae* flower type.

*Pediomelum rhombifolium*, Scurf Pea, PDST 267. (Photo right)

The three leaflets on this hairy, trailing perennial vine are arranged in a rhombic pattern, thus the species name.

It occurs primarily in sandy soils, in many Texas counties south of the Panhandle. (See also photo on p 1.)

Information provided by Richardson and King is easily understood and excellent, but sometimes I'd like to know just a bit more about the plant. In this case, what kind of root should I expect if I were to attempt to rescue this beautiful little vine?

In this case, I turn to Correll & Johnston's manual, with a copyright of 1979 and reprinted for the 4th time in 1996. It's heavy, in fine print, cumbersome, hard-to-comprehend, full of abbreviations, and chock full of all kinds of detail. (1850+ pages)

This resource describes the root on the first line of detail!

"Rootstock deep, about 25 mm. long and 1 cm. thick..."

On page 6 is the entire passage on this plant, as it appears under the older name of *Psoralea rhombifolia*.



15. *Psoralea rhombifolia* T. & G. Rootstock deep, about 25 mm. long and 1 cm. thick; 1 or more long slender trailing shoots to 1 m. long, branching from the crown, these stems occasionally ascending near the ends; pubescence usually short-appressed and rather sparse but occasionally longer, denser and spreading; leaves pinnately trifoliate; stipules small, linear or lanceolate, 2-6 cm. long; petioles slender, 3-7 (-11) cm. long; petiolule of middle leaflet to 15 mm. long; leaflet shape variable; basal leaves commonly with orbicular leaflets that are rounded or emarginate apically; leaflets of midstem ovate to rhomboid or broadly lanceolate to broadly elliptic, 10-35 mm. long, 1-3 cm. broad; spikes short, dense, capitate, commonly with only 3 to 8 flowers, in some plants the inflorescence elongate and forming distinct internodes; peduncles slender, (2-) 3-7 (-10) cm. long; bracts similar to the stipules, small, linear, inconspicuous; flowers small, 5-8 (-10) mm. long; calyx 4-6 mm. long, the lobes subequal and slightly longer than the tube; petals brick-red or orange-brown, the banner somewhat paler than the wings and keel; fruit 8-11 mm. long, body enclosed by the calyx, the linear beak 4-6 mm. long and projecting well beyond the calyx. Usually sandy soil, Grayson Co., w.-s.w. to Andrews Co. and s. to Rio Grande Plains, infrequent in e. and s.e. Tex., Mar.-July; Tex., La., Okla., Tam., N.L., Ver., Hgo., Pue., Oax., Mor., Jal., Son. and Baja Calif.

Correll & Johnston is another of those old botanical tomes being thrown out of many libraries as patrons use internet resources in lieu of dusty old volumes. In many cases, you won't find this depth of information on the internet, even though it's been available for many years. It's difficult to wade through all the measurements and abbreviations. Imagine how lengthy it would be without those abbreviations! Today I find it on the internet from \$199-\$500, with few copies available.

We've barely peeked at a few of the wonderful legumes around us. Perhaps you'll be motivated to explore them further at your leisure.

*Dalea nana*. Dwarf Dalea, PDST 259.  
Another example of *Papilionoideae* flower type.  
Perennial. Spring blooms. (Photos right.)



#### **Bibliography of Literature Cited:**

Cheatham, Scooter, and M. C. Johnston, with L. Marshall. 1995. *Useful Wild Plants of Texas*. Volume 1 (568 pp.), Volume 2 (599 pp.) Useful Wild Plants, Inc. (Volumes 3 and 4 of this encyclopedia are also now available, covering genera up to and including Convolvulus. An estimated fifteen total volumes will be required to complete this project.)

Correll, D. S., and M. C. Johnston. 1970. *Manual of the Vascular Plants of Texas*. 1881 pp. Texas Research Foundation.

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Standley, Paul C. 1920-26. *Trees & Shrubs of Mexico*. 1721 pp. Smithsonian Institution.

Taylor, R. B., J. Rutledge, and J. C. Herrera. 1999. *A Field Guide to South Texas Shrubs*. Texas Parks and Wildlife Press. (Taylor authored a revised title in 2014. *Common Woody Plants & Cacti of South Texas*. 205 pp. University of Texas Press.)

Tull, Delena. 1987. *Practical Guide to Edible and Useful Plants*. 518 pp. Texas Monthly Press. (Tull's revision is titled *Edible and Useful Plants of the Southwest: Texas, New Mexico and Arizona*. 456 pages in a smaller print. University of Texas Press.)

Turner, Billie L., H. Nichols, G. Denny, and O. Doron. 2003. *Atlas of the Vascular Plants of Texas*. 888 pp. Botanical Research Institute of Texas.

## LRGV Native Plant Sources

See also our  
Sponsors on right

### **Perez Ranch Nursery**

(Betty Perez)

12 miles north of La Joya, TX

(956) 580-8915

<PerezRanchNatives@gmail.com>

**These vendors may sell exotics:**

### **National Butterfly Center**

Old Military Hwy/3333 Butterfly Pk Dr

Mission, TX 78572

office (956) 583-5400

Marianna Trevino Wright, Exec.Dir.

cell 956-648-7117

<mariana@nationalbutterflycenter.org>

[http://www.nationalbutterflycenter.org]

### **Rancho Lomitas Nursery**

(Benito Trevino)

P.O. Box 442

Rio Grande City, TX 78582

(956) 486-2576 \*By appt. only

### **Valley Garden Center**

701 E. Bus. Hwy. 83

McAllen, TX 78501

(956) 682-9411

### **M&G Double D Native Plants & Seeds of South Texas, (Gail Dantzker)**

956-342-5979; <gdld@att.net>

7500 N 21st St; McAllen, TX 78504

[mandgdoubled.com]

Grown at The Woods, Willacy Cty., TX.

### **Landscapers using Natives:**

Landscaping, Etc. Inc.

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125 N. Tower Rd, Edinburg

## *Sponsors (Native Plant Nurseries)*

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Paula J. Cochrane photographed Green Parakeets in Mission, TX, harvesting the few remaining Sugar Hackberry fruits.

Sugar Hackberry, *Celtis laevigata*, PDST 408, has 11-16 % crude protein in the fruits. Birds will also consume leaves, especially new growth, averaging 28% crude protein. (Taylor.)

NPP Board & General Meetings are held at

Valley Nature Center

(4th Tues. each month)

Brd Mtgs 6:30pm — Speaker 7:30pm.

2017 meetings: 2/28, 3/28, 4/25, 5/23, 9/26, 10/24, 11/28

Several NPP Board Members will be nominated and elected at the January meeting. This is our first meeting of 2017 and will include refreshments. We hope to see you there!!

**FROM:** NPP; POB 2742; San Juan, TX 78589

The **Native Plant Project (NPP)** has no paid staff or facilities. NPP is supported entirely by memberships and contributions. Anyone interested in native plants is invited to join. Members receive 8 issues of **The Sabal** newsletter per year in which they are informed of all project activities and meetings.

**Meetings are held at:**

Valley Nature Center, 301 S. Border, Weslaco, TX.

**Native Plant Project Membership Application**

Regular \$20/yr.   Contributing \$45/yr  
Life \$250 one time fee/person  
Other donation: \_\_\_\_\_

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*Please mail this form with dues check payable to:  
Native Plant Project, POB 2742, San Juan, TX 78589-7742*

Dues for 2017 are due in January. Are you paid up??

**TO:**

**NPP meeting/speaker:**

**Tues., January 24th, 7:30pm**

The Native Plant Project will present:

**“Conservation Easements ”**

*by John & Audrey Martin*

The meeting is held at **Valley Nature Center**, 301 S Border, (in Gibson Park), Weslaco. 956-969-2475.

This is the first meeting for 2017. Several board members have agreed to be nominated for an additional term of 2 years, new members will be nominated, and elections will take place.

Refreshments will be served!

We hope to see you there!



Raziel Flores photographed this tiny insect nectaring on the blooms of Candelilla in mid-November, 2016, in McAllen, TX.

Blooms are tiny, much-enlarged in this photo. Candelilla is *Euphorbia antisyphilitica*, PDST 222. It's an example of a native species, rare in the wild, which private landowners may help to conserve.